

# VIBRATING FORK LEVEL SWITCH FOR SOLIDS- **VFSS**

*It is a single point level switch based on piezo driven vibrating fork technology, suitable for detection of free flowing, non-hygroscopic powders/ granules in silos.*

## SALIENT FEATURES

- Rugged design with no moving parts, minimum maintenance
- Universal power supply 20 to 265 VAC/ DC
- Self-clean probe, no build-up due to vibration technology
- Unaffected by dusty environment
- Site selectable Fail safe high/ low mode
- Adjustable switching delay
- Ex-proof /ATEX enclosure for hazardous area applications
- Choice of Integral or Two Part System



Screwed x Extd.  
Length (SS)

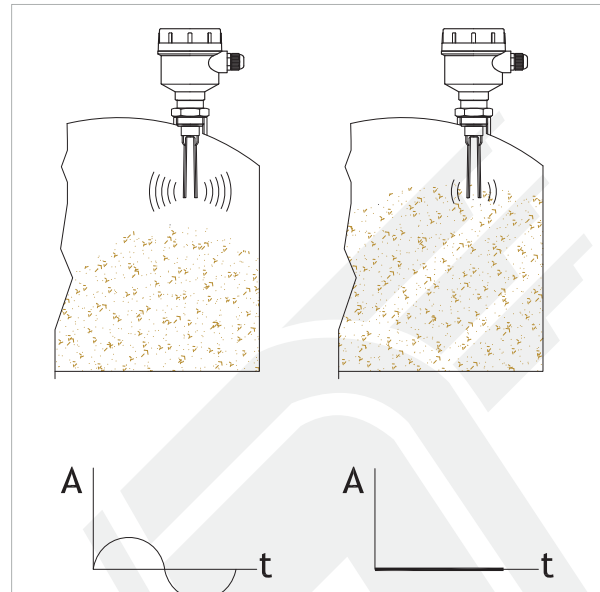


Integral System

## CONSTRUCTION & OPERATION

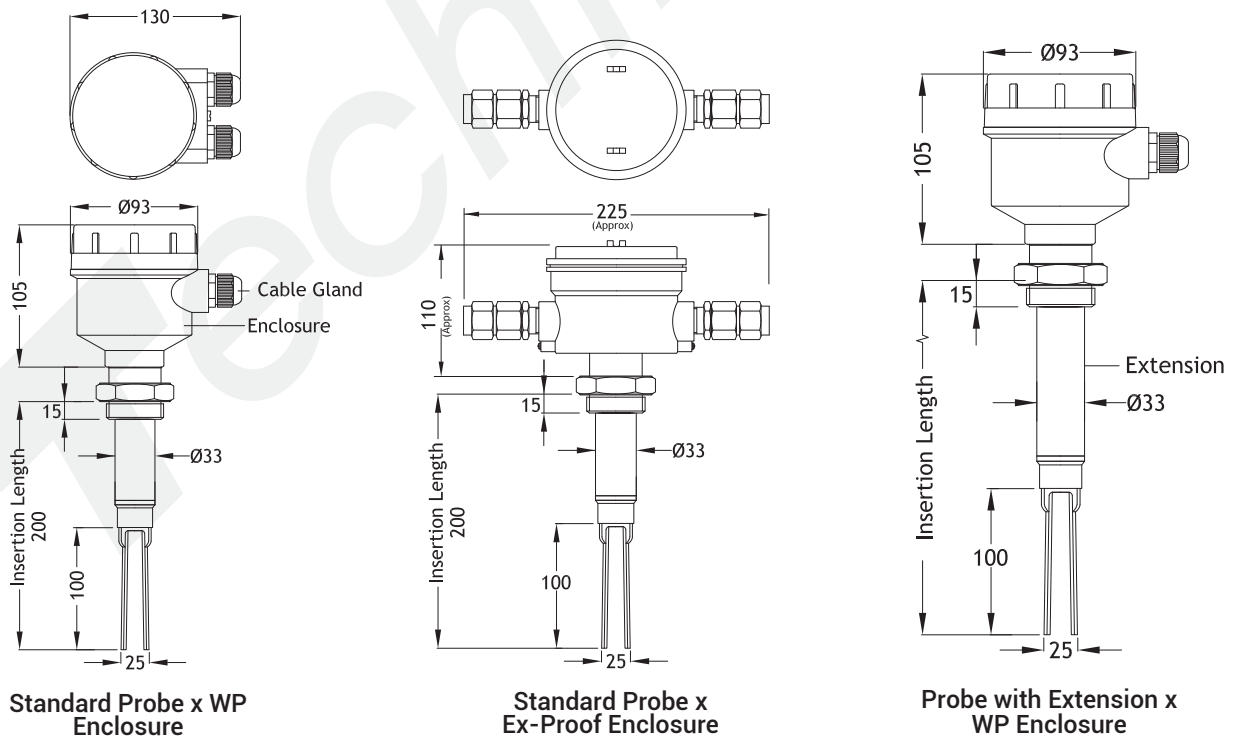
Available as Integral (I) or Two Part system (T). In the integral system, the controller is integral with the probe. In two- part system, the controller is separate from the probe.

An enclosure housing electronics is fitted at top of the vibrating fork. The fork vibrates in air at its resonance frequency through piezo electric crystal, which gets damped when it is covered with solid material. This is sensed by the electronics causing changeover of relay contacts which is further used to operate auxiliary devices.

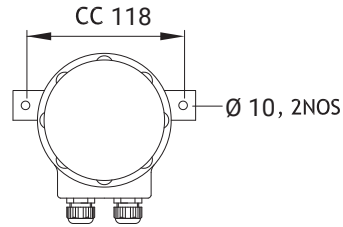
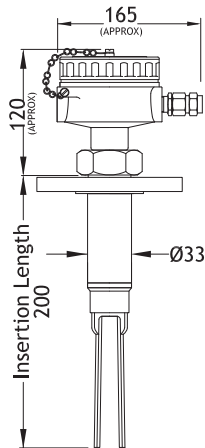


## SCHEMATIC DIAGRAMS

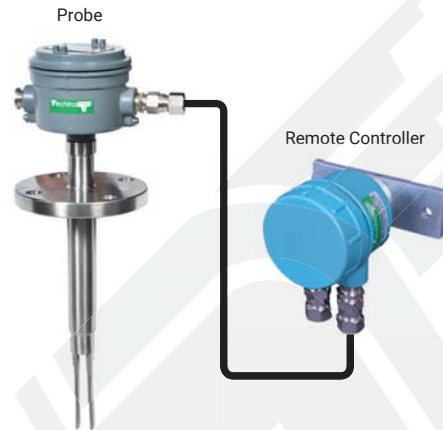
### Integral System (I)



### Two Part System (T)



Remote Controller  
x WP Enclosure

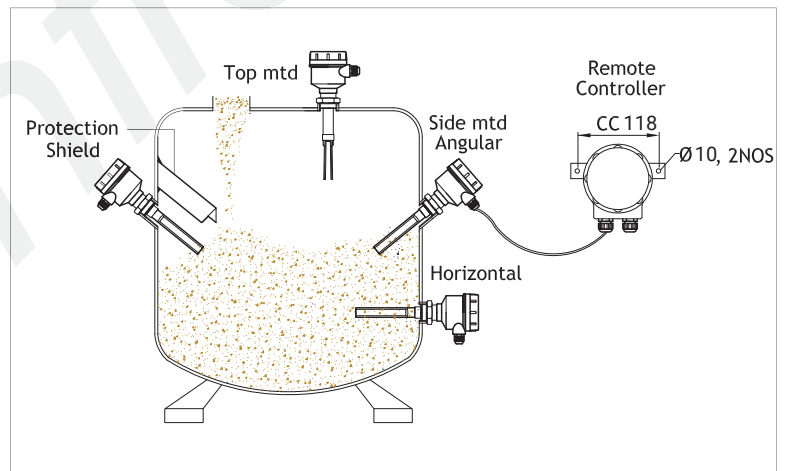


Probe std. or extended x  
Enclosure WP or Ex-Proof

### TERMINATION



### INSTALLATION



### SERVICES AND APPLICATIONS

Level detection of material like Grains, Spices, Coffee Beans, Soya Granules, Rice Bran, Iron Ore Powder, Sugar, Animal Feed, Flour, Detergent, Gypsum, Foundry Sand, Cement, Pesticide Powder, PVC Powder, Dye Powder, Ash Powder, Plastic Granules, Cement, Coal, Clinker.

## SPECIFICATIONS

PROBE	System		<b>Integral System (I)</b> (Probe with Integral Controller)	<b>Two-Part System (T)</b> (Probe with Remote Controller)
	Enclosure	a. b.	Cast Al. IP66 Cast Al. Exd Gr. IIB / IIC T6, IP66	Cast Al. IP66 Cast Al. Exd Gr. IIB / IIC T6, IP66 Cast Al. ATEX Exd Gr. IIC, T6, IP66
	Conduit Connection	a. b.	M20 (WP) ½" NPT (Ex-Proof)	
	Cable Gland	a. b.	M20 x 1.5 Cable Gland, PVC (WP) ½" NPT DC Cable Gland, Brass (Ex-proof)	
	Fork MOC	a. b.	SS316 as standard SS316L available optionally	
	Std. Insertion Length		200 mm	
	Max. Insertion Length		upto 3000 mm with extension	
	Extension MOC	a. b.	SS304 or SS316 (as standard) SS316L (option on request)	
	Process Conn. MOC	a. b.	SS304 or SS316 (as standard) SS316L (option on request)	
	Process Connection		1½" BSP or NPT(M) or 1½" NB Flange 150#	
Measuring Frequency		350 to 390 Hz		
Min. Bulk Density		200 gram/ liter, Particle size ≤ 10 mm		
Temperature		-10 to 150 °C		
Max Pressure		Vacuum to 10 kg/cm <sup>2</sup>		

CONTROLLER	Enclosure (Remote)	NA	Cast Al. IP66
	Conduit Conn. (Remote)	NA	M20
	Cable Gland (Remote)	NA	M20 x 1.5 Cable Gland, PVC
	Supply	20 to 265 VAC/ DC (Reverse protection for DC supply)	
	Output	Relay x 2 SPDT, potential free contacts, 5A, 250 VAC (resistive load)	
	Indication LED	Blue – Normal, Red – Alarm	
	Adjustable Switching Delay	Covered - 5 to 20 sec Uncovered - 5 to 20 sec	
	Fail Safe Operation	High or low selectable through DIP switch	
	Power Consumption	<100 mA	
	Amb. Temperature	-10 to 60°C	
	Humidity	95% Rh Non- condensing	
	Interconnecting Cable	NA	3 core x 1.5 mm <sup>2</sup> PVC insulation (Buyer's Scope)

\* MS Process Connection with GI Extension available optionally

## MODEL IDENTIFICATION

	VFSS-							x Insertion Length
<b>1. System</b>								
Integral (Probe with Integral Controller)	I							
Two Part (Probe with Remote Controller)	T							
<b>2. Enclosure x Cable Gland of Probe</b>								
Cast Al. IP66 x M20 x 1.5 Cable Gland, PVC	J							
Cast Al. Exd. Gr. IIB x 1/2" NPT DC Cable Gland, Brass	E							
Cast Al. Exd. Gr. IIC x 1/2" NPT DC Cable Gland, Brass	F							
Cast Al. ATEX Exd. Gr. IIC x 1/2" NPT DC Cable Gland, Brass (Sys-T)	G							
Others	O							
<b>3. Fork MOC</b>								
SS316						S		
Others						O		
<b>4. Process Connection/ Extension MOC</b>								
SS304							N	
SS316							S	
MS (with GI Extn)							M	
Others							O	
<b>5. Process Connection</b>								
1 1/2" BSP (M) Screwed							S	
1 1/2" NB ASME 150 # Flange							F	
Others							O	
<b>6. Enclosure x Cable Gland of Remote Controller</b>								
Without								W
Cast Al. IP66 x M20 x 1.5 Cable Gland, PVC								J
Others								O

## ORDERING INFORMATION

Model Number x Probe Length (mm) x Service Material (Powder/Granule) x Operating Temperature & Pressure.

\*All dimensions in mm except specified

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